Title (en)

METHOD AND SYSTEM FOR OPTIMIZING ILLUMINATION POWER AND INTEGRATION TIME IN AN OPTICAL SENSING DEVICE

Title (de)

VERFAHREN UND SYSTEM ZUM OPTIMIEREN DER BELEUCHTUNGSLEISTUNG UND INTEGRATIONSZEIT IN EINER OPTISCHEN ERFASSUNGSEINRICHTUNG

Title (fr)

PROCEDE ET SYSTEME D'OPTIMISATION DE LA PUISSANCE D'ECLAIRAGE ET DU TEMPS D'INTEGRATION DANS UN DETECTEUR OPTIQUE

Publication

EP 1644813 B1 20070404 (EN)

Application

EP 04741708 A 20040602

Priority

- EP 2004050995 W 20040602
- US 60968603 A 20030701

Abstract (en)

[origin: US2005001142A1] There is described an optical sensing device, a method for controlling operation of an optical sensing device comprising a light source for illuminating a surface portion with radiation, a photodetector device having at least one photosensitive element responsive to radiation reflected from the illuminated surface portion, and conversion means for integrating an output signal of said at least one photosensitive element over time during an integration period of variable duration, which duration depends on power of the light source and level of radiation reflected from the illuminated surface portion. The optical sensing device further comprises a regulating system for controlling power if the light source as a function of a comparison between a parameter representative of the evolution of the integration of the output signal of the said at least one photosensitive element and at least one reference value. Regulation is advantageously performed by timing the duration of the integration period or by determining the rate of evolution of the integrated signal, comparing this duration or rate of evolution with at least one reference value and controlling power of the light source as a function of the result of the comparison. There is also described an optical pointing device implementing the above regulation scheme as well as an optical sensing device exploiting this scheme so as to sense proximity of the illuminated surface portion with respect to the optical sensing device.

IPC 8 full level

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